

WHAT IS CLAIMED IS:

1. A thermal conductive polymer molded article formed by molding a thermotropic liquid crystalline composition
5 comprised mainly of a thermotropic liquid crystalline polymer,

wherein the thermal conductive polymer molded article is formed by applying a field selected from the group consisting of a magnetic field and an electric field to the
10 thermotropic liquid crystalline composition melted by heating so that the thermal conductive polymer molded article has a first thermal conductivity (λ_1) higher than a second thermal conductivity (λ_2) of a molded article formed by molding the thermotropic liquid crystalline polymer
15 without said application of a magnetic field or an electric field.

2. The thermal conductive polymer molded article according to claim 1, wherein the thermotropic liquid crystalline
20 composition consists solely of the thermotropic liquid crystalline polymer.

3. The thermal conductive polymer molded article according to claim 1, wherein the thermotropic liquid
25 crystalline composition comprises 100 parts by weight of the thermotropic liquid crystalline polymer and 5 parts by weight or less of a thermal conductive filler relative to the thermotropic liquid crystalline polymer.

30 4. The thermal conductive polymer molded article according to claim 1, wherein the thermal conductive polymer molded article has the first thermal conductivity (λ_1) of between 0.7 and 20 W/(m·K).

5. The thermal conductive polymer molded article according to claim 1, wherein the thermotropic liquid crystalline polymer comprises at least one polymer selected from the group consisting of (A) a wholly aromatic polyester and (B) a wholly aromatic polyester amide.

6. The thermal conductive polymer molded article according to claim 1, wherein the molded article has a density of 1.10 to less than 1.50 g/cm³.

7. The thermal conductive polymer molded article according to claim 1, wherein the thermal conductive polymer molded article is in a sheet form and has a thermal conductivity (λ_{1T}) of between 0.7 and 20 W/(m·K) in the thickness direction of the sheet.

8. The thermal conductive polymer molded article according to claim 1, wherein the difference ($\lambda_1 - \lambda_2$) between the first thermal conductivity (λ_1) and the second thermal conductivity (λ_2) is between 0.2 and 19.8 W/(m·K).

9. The thermal conductive polymer molded article according to claim 1, wherein said thermal conductive polymer molded article is in a sheet form and has a thermal conductivity (λ_{1P}) of between 0.7 and 20 W/(m·K) in the direction parallel to the surface of the sheet.

10. A method for producing a thermal conductive polymer molded article, the method comprising steps of:

melting by heating a polymer selected from the group consisting of a thermotropic liquid crystalline polymer and a thermotropic liquid crystalline composition;

applying a field, selected from the group consisting of a magnetic field and an electric field, to the melted polymer; and

solidifying by cooling the melted polymer after the
5 step of applying the field to the melted polymer.

11. The method for producing a thermal conductive polymer molded article according to claim 10, wherein the melting step comprises a step of molding the polymer into a sheet
10 form, and the step of applying the field to the polymer comprises a step of applying the field in the thickness direction of the sheet form.

12. The method for producing a thermal conductive polymer
15 molded article according to claim 10, wherein the melting step comprises a step of molding the polymer into a sheet form, and the step of applying the field to the polymer comprises a step of applying the field in the direction parallel to the surface of the sheet form.

20 13. A method for controlling a thermal conductive polymer molded article in thermal conductivity, the method comprising steps of:

melting by heating a polymer selected from the group
25 consisting of a thermotropic liquid crystalline polymer and a thermotropic liquid crystalline composition; and

applying a field selected from the group consisting of a magnetic field and an electric field to the melted polymer, wherein the direction of the field is controlled to the
30 direction in which the first thermal conductivity (λ_1) of the thermal conductive polymer molded article is improved.